

Work Order ID 140818

January 19, 2016 1:27:34 PM

140818

Please make week of
Jan 19-20 Page 1

Item ID: D3564-5 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Wearplate Center
Start Date: 1/19/2016 Start Qty: 18.00 *18* Cust Item ID:
Required Date: 2/2/2016 Req'd Qty: 18.00 *18* Customer:
Reference:

Approvals: Process Plan: SL Date: 20160119 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3564	Rev D								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.05							
FLOW CNC Waterjet	1-Cut as per Dwg D3564								
	Dwg Rev: <u>D</u>								
	Prog Rev: <u>D</u>								
	2-Debur if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									

(19) _____ 2016/01/20

(19) _____ 2016/01/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY																																																																																																																											
Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	No Re-verification	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	Pressure/Forced	☐	Bending	☐	Centre Not Concentric	☐	Cracks	☐	Crimp/Kink/Ripple/Wave	☐	Cuffs	☐	Crushing	☐	Heat Treat	☐	Wave/Twist in Tube	☐	Marks/Chatter	☐	Temperature/Cure	☐	Set-up	☐	BOM/Route	☐	Broken/Damage/Defect	☐	Inspection Incomplete/Unqualified	☐	Contamination	☐	Countersink	☐	Cut Too Short	☐	Instructions Incomplete/Unclear	☐	Drill Holes	☐	Power Loss/Surge	☐	Folio/Program	☐	Grain	☐	Weld	☐	Wrong Stock Pulled	☐	Out of Sequence	☐	Off-set	☐	Mislabeled	☐	Fit/Function	☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐
OTHER :																																																																																																																															

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

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140818

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Item ID: D3564-5 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Wearplate Center
 Start Date: 1/19/2016 Start Qty: 18.00 ***18*** Cust Item ID:
 Required Date: 2/2/2016 Req'd Qty: 18.00 ***18*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* Powdercoat Powder Coating	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3 <i>M 130746</i> Memo START TIME: <i>1:45</i> OVEN TEMPERATURE: <i>320</i> FINISH TIME: <i>2:15</i>	0.00 0.00							<i>19</i> <i>1/16-01-27</i> <i>238</i>
160 *160* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							<i>19</i> <i>DAS 38 9-89</i> <i>FEB 01 2016</i>
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: <i>FP-002</i> Memo LOCATION : FP 002	0.00 0.00							<i>x19</i> <i>d</i> <i>16/02/01</i>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 140818

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Page 4

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Required Date: 2/2/2016 Req'd Qty: 18.00 ***18*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.03							
Quality Control									

FEB 01 2016

FEB 01 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

January 19, 2016 1:27:38 PM

Page 1

Work Order ID: 140818

140818

Parent Item: D3564-5

D3564-5

Parent Item Name: Wearplate Center

Start Date: 1/19/2016

Required Date: 2/2/2016

Start Qty: 18.00

Required Qty: 18.00

Comments: IPP Rev:A New Issue 07-03-08 cc
IPP Rev:B As per Rev C 07-07-09 JLM
IPP Rev:C As per Rev D 07-09-09 JLM Verified By:EC
IPP Rev D added DT# 08.04.21 DD Verified by EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased	No			100	sf	141.6350	1.5	28.42105			

M304S16GA

304/316 Sheet .063

2-16/01/20

Location

Loc Qty

Loc Code

MAT019

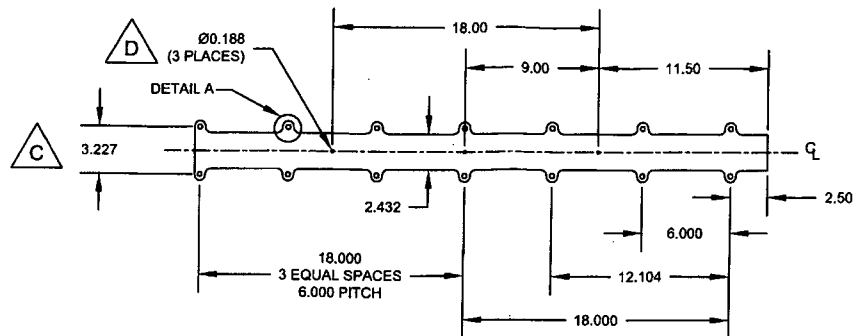
141.635

m133511

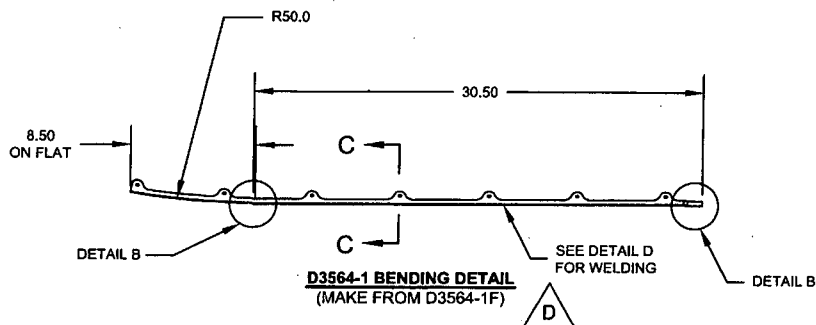
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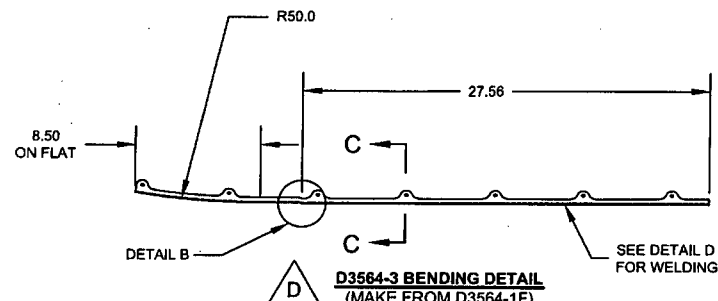
8 7 6 5 4 3 2 1



D3564-1F FLAT PATTERN



D3564-1 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-3 BENDING DETAIL
(MAKE FROM D3564-1F)

RELEASED
07.09.04

UNDER REVIEW
11-10-04
Twist change
OK 11.11.28

D3564-1/-3/-5/-7/-9/-11/-13/-15 WEARPLATE NOTES:

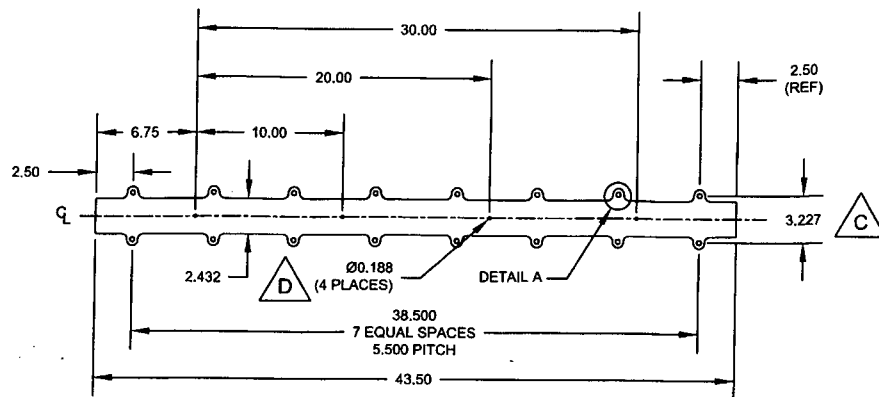
- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE IN ZONE A3
- 8) WELD PER DART QSI 004
- 9) SEE PG 3 FOR SECTIONS AND DETAILS
- 10) PARTS ARE SYMMETRIC ABOUT C

SH
20160119
140818

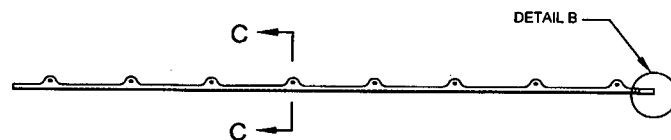
WEIGHTS:	
D3564-1	1.85 lbs
D3564-3	1.85 lbs
D3564-5	1.93 lbs
D3564-7	1.26 lbs
D3564-9	1.85 lbs
D3564-11	1.85 lbs
D3564-13	0.38 lbs
D3564-15	0.80 lbs

D	UPDATE DRAWING TEMPLATE; CHANGE ALL (TYP X PLS) TO (X PLACES); PG1 A8: UPDATE NOTES; PG1 A8, PG3 B5,C5: ADD D3564-15; PG1 B6,B3: D3564-1/-3 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ON PG1; PG3 B8,C8: D3564-13 WAS ON PG2; PG3 D2: WELDING DETAIL WAS ON PG1 PG3 A5,7,B2: RELOCATE DETAILS AND SECTION; PG3 A5,7,B2: INCREASE DETAIL AND SECTION SIZE	CB	07.08.21
C	MOVE TAB OUTBOARD, DETAIL A	PH	07.04.17
B	ADD AMS 5513 AND AMS 5524	PH	07.03.20
A	NEW ISSUE	PH	06.12.18
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	CB		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	07.08.21		
</			

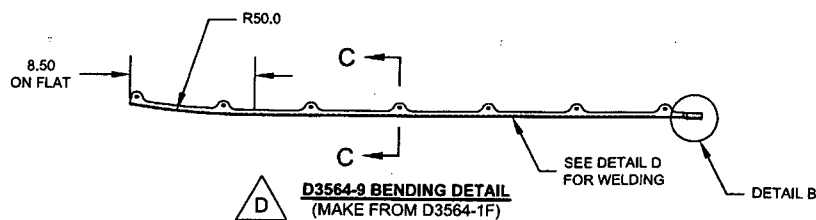
8 7 6 5 4 3 2 1



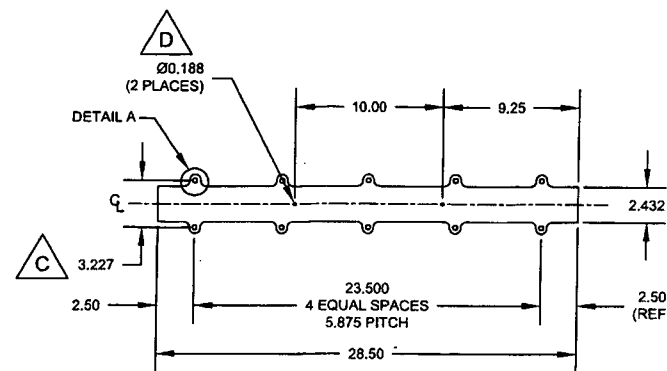
D3564-5F FLAT PATTERN



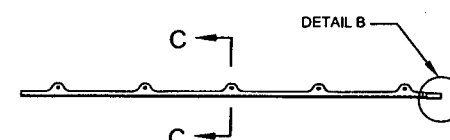
D3564-5 BENDING DETAIL
(MAKE D3564-5 FROM D3564-5F)



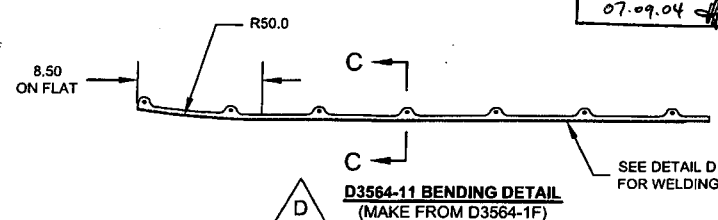
D3564-9 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-7F FLAT PATTERN



D3564-7 BENDING DETAIL
(MAKE D3564-7 FROM D3564-7F)



D3564-11 BENDING DETAIL
(MAKE FROM D3564-1F)

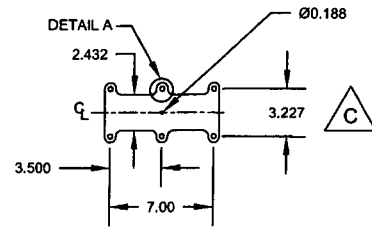
UNDER REVIEW
OK 07.11.28

RELEASED
07.09.04

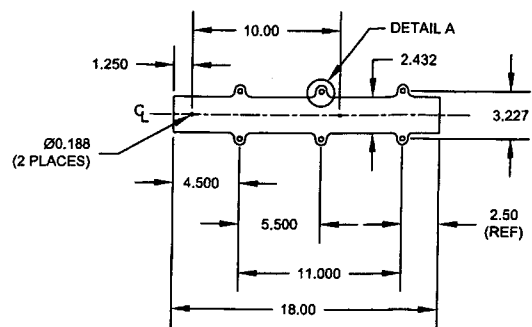
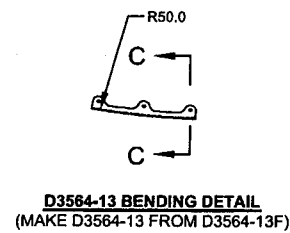
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CB		
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
DATE	07.08.21	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

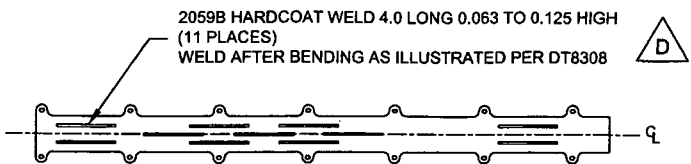
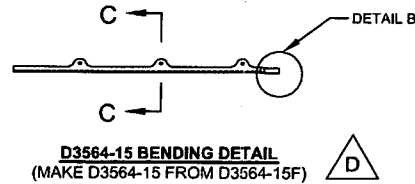
8 7 6 5 4 3 2 1



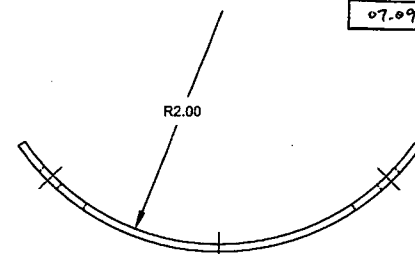
D3564-13F FLAT PATTERN



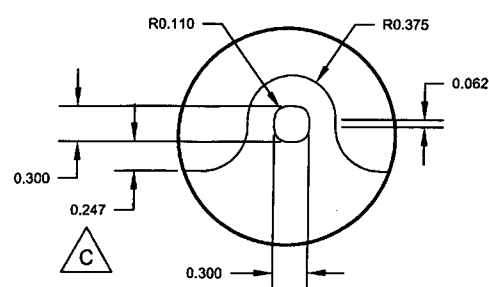
D3564-15F FLAT PATTERN



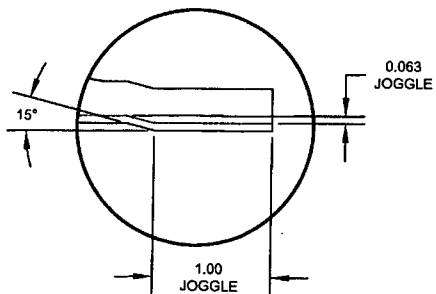
DETAIL D
(D3564-1/-3/-9/-11 WELDING DETAIL)



SECTION C-C
SCALE 1:1



DETAIL A
SCALE 1:1



DETAIL B
SCALE 1:1

RELEASED
07.09.04

UNDER REVIEW
1/14
OK 9/11/28

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO. D3564	REV. D
MFG. APPR.	PH	SHEET 3 OF 3	
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
DATE	07.08.21	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

DART AEROSPACE LTD		Work Order:	140818
Description: Wearshoe		Part Number:	D3564-5
Inspection Dwg: D3564 Rev: D		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
43.50	+/-0.030	43.50	/		Vide-02	
6.75	+/-0.030	6.75	/		Taper	
10.00	+/-0.030	10.00	/			
20.00	+/-0.030	20.00	/			
30.00	+/-0.030	30.00	/			
2.50	+/-0.030	2.50	/			
3.227	+/-0.010	3.223	/			
38.500	+/-0.010	38.500	/			
5.500	+/-0.010	5.501	/			
2.50	+/-0.030	2.50	/			
2.432	+/-0.010	2.436	/			
0.300 x 0.300	+/-0.010	.301 x .301	/			
Ø0.188	+0.005/-0.001	Ø.189	/			
R0.375	+/-0.010	.375	/			
0.063	+/-0.010	.058	/			

Measured by:	<i>DE</i>	Audited by:	DAS 38	Prototype Approval:	N/A
Date:	16/01/20	Date:	JAN 20 2016	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.01.16	New Issue	KJ/EC/DD	<i>DD</i>